

WHAT IS CLAIMED IS:

1. A method for facilitating intra-domain mobility, said method comprising the steps of:

5 providing a first network that includes a first agent including location information about a mobile node;

providing a second network that includes two or more subnetworks and a second agent; and

registering the mobile node with the second agent such that the

10 mobile node is provided a unique globally reachable address different from a home address of the mobile node, enabling the mobile node to transition from any of the subnetworks to another subnetwork without communicating to the first agent information about the transition and without communicating to the second agent information about a security association between the mobile node and the first
15 agent.

2. The method of claim 1, wherein the second agent includes a dynamic tunneling agent.

20 3. The method of claim 1, wherein the second agent includes a plurality of associated IP addresses to assign to a mobile node.

4. The method of claim 1, wherein the first agent includes a globally accessible redirection agent.

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5. The method of claim 1, wherein the step of registering the mobile node with the second agent further comprises the step of:

registering the mobile node with a third agent associated with one of the subnetworks.

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6. The method of claim 5, wherein the third agent includes a subnet agent.

7. The method of claim 5, wherein the third agent includes a dynamic host configuration protocol (DHCP) server.

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8. The method of claim 5, wherein the third agent includes a dynamic configuration and registration protocol (DRCP) server.

9. The method of claim 1, wherein the second agent operates at a network layer.

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10. The method of claim 1, further comprising providing by the mobile node the globally reachable GCOA to the first agent.

20 11. The method of claim 1, further comprising:
providing another network that includes a correspondent agent; and
providing by the mobile node the globally reachable GCOA to the correspondent agent.

25 12. The method of claim 1, further comprising the steps of:

receiving in the first network communication addressed to the mobile node;

intercepting the communication by the first agent;

forwarding, at the first agent, the communication to the globally reachable
GCOA;

5 intercepting of the communication by the second agent; and

forwarding, at the second agent, the communication to the mobile node.

13. The method of claim 12, wherein the step of forwarding the communication
to the mobile node comprises the steps of:

10 encapsulating the communication to include the LCOA of the mobile node;

and

sending the encapsulated communication to the LCOA.

14. The method of claim 13, further comprising the steps of:

15 decapsulating the encapsulated communication by the third agent; and

forwarding the decapsulated communication to the mobile node.

15. The method of claim 1, wherein the step of providing a second network
includes providing at least two second agents.

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16. The method of claim 15, wherein the step of registering the mobile node
comprises the steps of:

providing a mobility server in the second network;

allocating dynamically by the mobility server one of the at least two second

25 agents; and

registering the mobile node with the allocated second agent.

17. A system for facilitating intra-domain mobility, said system comprising:

5 a first network that includes a first agent having a home address of a mobile node; and

a second network that includes two or more subnetworks and a second agent, wherein the second agent is programmed to provide the mobile node with a unique globally reachable address different from a home address of the mobile node enabling the mobile node to transition from any of the

10 subnetworks to another subnetwork without communicating information to the first agent about the transition and without communicating to the second agent information about a security association between the mobile node and the first agent.

15 18. The system of claim 17, wherein the second agent includes a dynamic tunneling agent.

19. The system of claim 17, wherein the second agent operates at a network layer.

20 20. The system of claim 17, wherein the first network includes a home network.

21. The system of claim 17, wherein the second network includes a foreign network.

22. The system of claim 17, wherein the second network includes a third agent associated with one of the subnetworks.

23. The system of claim 22, wherein the third agent includes a subnet agent.

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24. The system of claim 22, wherein the third agent includes a DHCP server.

25. The system of claim 22, wherein the third agent includes a DRCP server.

APPENDIX A